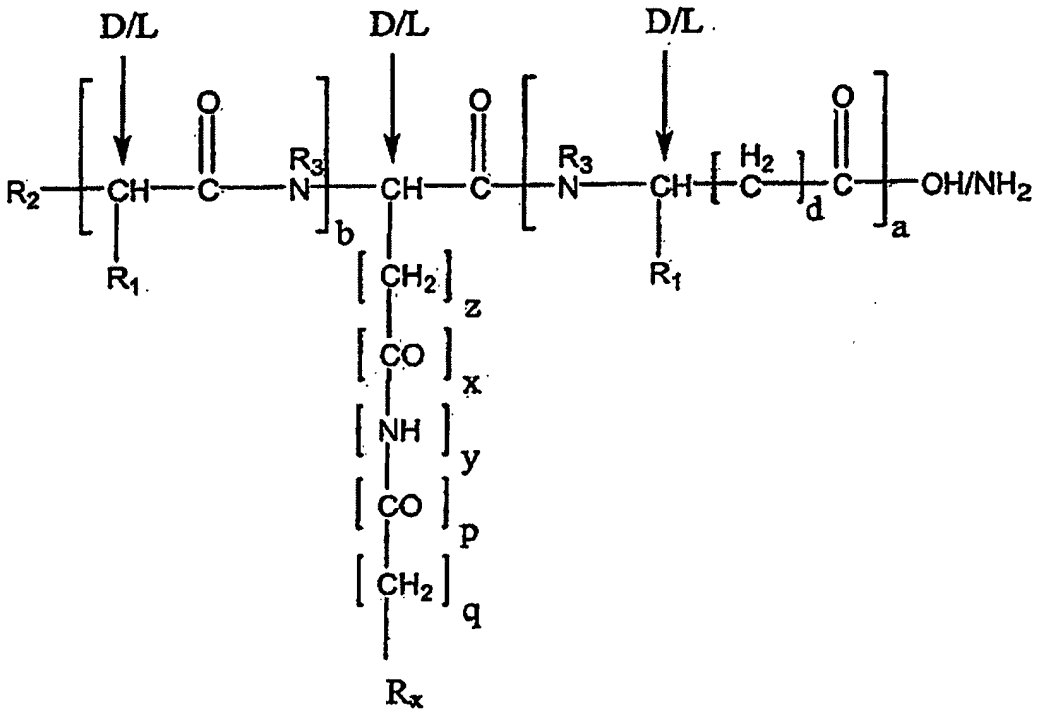
AMENDMENTS TO THE CLAIMS

1. (Currently amended) A peptide represented by the general formula I:



or a pharmaceutically acceptable salt thereof,

wherein, if a is 1 then b is 0;

if a is 0 then b is 1;

~~wherein~~ z is ~~1-7~~ 4;

~~wherein if x is 1 then y and q are 1 and p is 0;~~

~~wherein if~~ p is 1, ~~then~~ x and q are 0, and y is 1;

~~and further,~~

~~wherein~~ d is 0;

wherein R_1 is the amino acid side chain of ~~an amino acid selected from the group consisting of alanine, arginine, asparagine, aspartic acid, cysteine, glutamic acid,~~

~~glutamine,~~ glycine~~, histidine, isoleucine, leucine, lysine, methionine, phenylalanine, proline, serine, threonine, tryptophan, tyrosine, and valine~~;

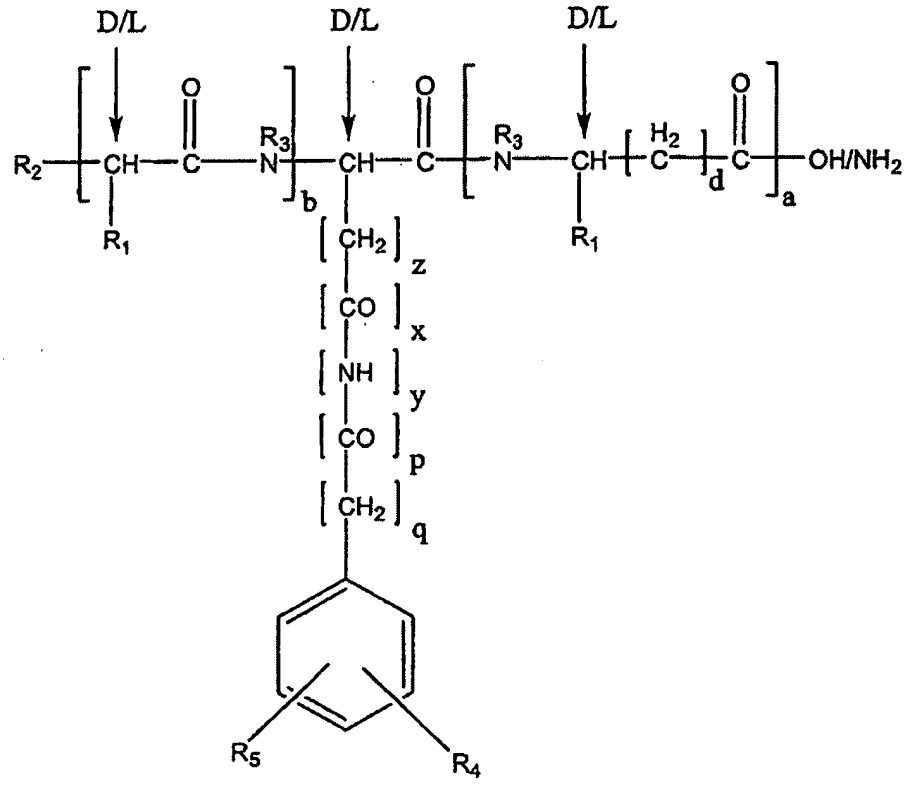
wherein R_2 is selected from the group consisting of NH_2, NHR, NR_2, NR_3^+H, OH, SH, RO, RS, RSO, RSO_2, COR, CSR, COOH, COOR, $CONH_2$, CONHR, $CONR_2$, OCOR, and SCOR, wherein R is alkyl, alkenyl, aryl, aralkyl, or cycloalkyl;

wherein R_3 is H or CH_3; and

wherein R_x is a hydrophobic group.

2-55. (Cancelled)

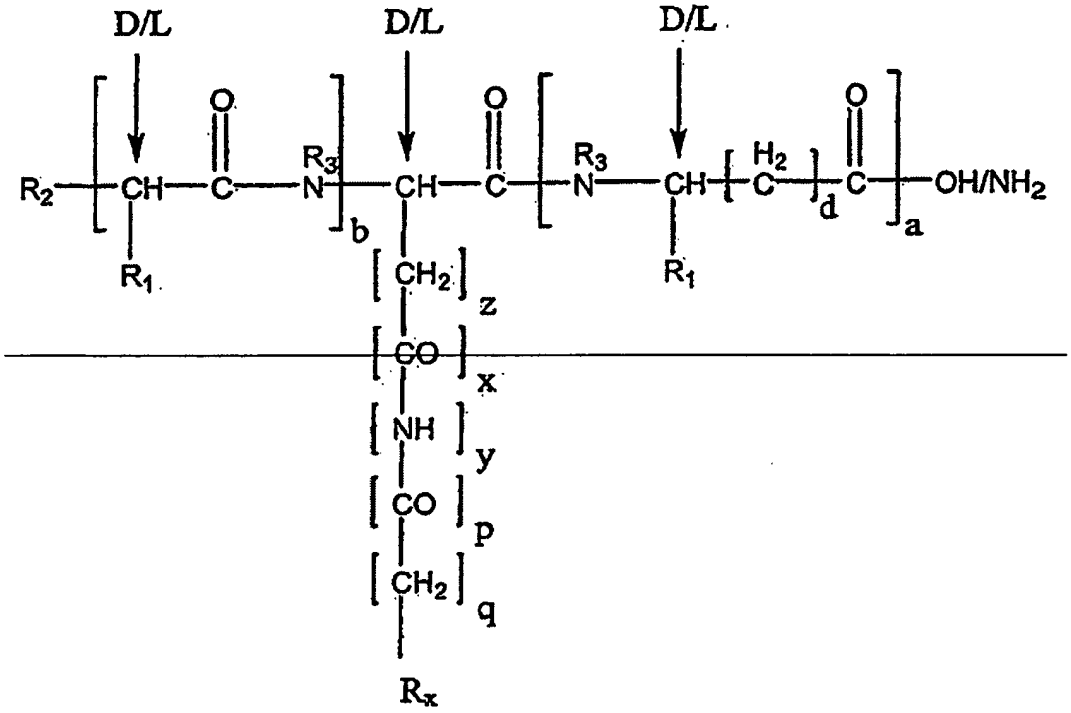
56. (Previously presented) The peptide of claim 1, wherein said peptide is represented by general formula II:



or a pharmaceutically acceptable salt thereof,

wherein R_4 and R_5 are independently selected from the group consisting of H, alkyl, alkenyl, aryl, aralkyl, halogen, CN, NO_2, alkoxy, aryloxy, aralkyloxy, thioalkoxy, thioaryloxy, thioaralkyloxy, $+S(CH_3)_2$, SO_3H, SO_2R, NH_2, NHR, NR_2, $+NR_3$, OH, SH, COOH, COOR, $CONH_2$, CONHR, $CONR_2$, CH_2OH, NCO, NCOR, NHOH, $NHNH_2$, NHNRH, CH_2OCOR, CH_2OCSR, COR, CSR, CSOR, CF_3, and CCl_3, and wherein R is alkyl, alkenyl, aryl, aralkyl, or cycloalkyl.

57. (Currently amended) The peptide of claim 1, ~~A peptide represented by the general formula I:~~



or a pharmaceutically acceptable salt thereof,

~~wherein, if a is 1 then b is 0;~~

~~if a is 0 then b is 1;~~

~~wherein z is 1-7;~~

~~wherein if x is 1 then y and q are 1 and p is 0;~~

~~wherein if p is 1 then x and q are 0 and y is 1;~~

~~wherein R_1 is the side chain of an amino acid selected from the group consisting of alanine, arginine, asparagine, aspartic acid, cysteine, glutamic acid, glutamine, glycine, histidine, isoleucine, leucine, lysine, methionine, phenylalanine, proline, serine, threonine, tryptophan, tyrosine, and valine;~~

~~wherein if R_1 is the side chain of glycine, then d is 0-8;~~

~~wherein if R_1 is the side chain of alanine, arginine, asparagine, aspartic acid, cysteine, glutamic acid, glutamine, histidine, isoleucine, leucine, lysine, methionine, phenylalanine, proline, serine, threonine, tryptophan, tyrosine, or valine, then d is 0;~~

~~wherein R_2 is selected from the group consisting of NH_2, NHR, NR_2, NR_3^+H, OH, SH, RO, RS, RSO, RSO_2, COR, CSR, COOH, COOR, $CONH_2$, CONHR, $CONR_2$, OCOR, and SCOR, and wherein R is alkyl, alkenyl, aryl, aralkyl, or cycloalkyl;~~

~~wherein R_3 is H or CH_3;~~

~~wherein R_x is a hydrophobic group; and~~

wherein said peptide comprises at least one D amino acid.

58-60. (Cancelled)

61. (Currently amended) The peptide of claim 1~~, 57, or 59~~, or a pharmaceutically acceptable salt thereof, wherein R_x comprises an aromatic carbon ring.

62. (Previously presented) The peptide of claim 61, or a pharmaceutically acceptable salt thereof, wherein said aromatic carbon ring comprises a 6 or 12 membered ring or a substituted form thereof.

63. (Previously presented) The peptide of claim 62, or a pharmaceutically acceptable salt thereof, wherein said ring is substituted with at least one selected from the group consisting of a lower alkyl, alkoxy, hydroxyl, carboxy, amine, thiol, hydrazide, amide, halide, hydroxyl, ether, amine, nitrile, imine, nitro, sulfide, sulfoxide, sulfone, thiol, aldehyde, keto, carboxy, ester, amide, seleno, and thio, or a derivative thereof.

64. (Previously presented) The peptide of claim 63, or a pharmaceutically acceptable salt thereof, wherein said ring comprises 1 or 2 substitutions.

65. (Previously presented) The peptide of claim 62, or a pharmaceutically acceptable salt thereof, wherein said ring is selected from the group consisting of a benzyl, phenyl, and napthyl, or a substituted form thereof.

66. (Currently amended) The peptide of claim 1~~, 57, or 59~~, or a pharmaceutically acceptable salt thereof, wherein said peptide comprises a free N-terminal, a free C-terminal, or both a free N- and C-terminal.

67. (Currently amended) The peptide of claim 1~~, 57, or 59~~, or a pharmaceutically acceptable salt thereof, wherein said hydrophobic group is a 6-membered aromatic carbon ring comprising a substituent at the 4-position.

68. (Previously presented) The peptide of claim 67, or a pharmaceutically acceptable salt thereof, wherein said substituent is selected from the group consisting of alkyl, alkoxy, hydroxyl, carboxy, amine, thiol, hydrazide, amide, halide, hydroxyl, ether, amine, nitrile, imine, nitro, sulfide, sulfoxide, sulfone, thiol, aldehyde, keto, carboxy, ester, amide, seleno, and thio, or a derivative thereof.

69. (Currently amended) The peptide of claim 1~~, 57, or 59~~, or a pharmaceutically acceptable salt thereof, wherein said peptide is an orally available peptide.

70. (Currently amended) The peptide of claim 1~~, 57, or 59~~, or a pharmaceutically acceptable salt thereof, wherein said peptide has a half-life in an *in vitro* plasma stability assay of more than about 30 minutes.

71. (Currently amended) The peptide of claim 1~~, 57, or 59~~, or a pharmaceutically acceptable salt thereof, wherein said peptide has a half-life in an *in vitro* plasma stability assay of more than about 48 hours.

72. (Currently amended) The peptide of claim 1~~, 57, or 59~~, or a pharmaceutically acceptable salt thereof, wherein said peptide binds to a tissue, cell, or cell fraction that is a site of action for an antiarrhythmic peptide.

73. (Currently amended) The peptide of claim 72, or a pharmaceutically acceptable salt thereof, wherein said antiarrhythmic peptide ~~is selected from the group consisting of~~ agonized or antagonizes the function of AAP, AAP10, ~~and~~ HP5, or a functional analog thereof.

74. (Cancelled)

75. (Currently amended) The peptide of claim ~~74~~ 1, or a pharmaceutically acceptable salt thereof, wherein said peptide is selected from the group consisting of H-D-Lys(2,4-dinitrobenzoyl)-Gly-OH (Compound 103), H-D-Lys(2,4-dimethylbenzoyl)-Gly-OH (Compound 104), H-D-Lys(2,5-dimethylbenzoyl)-Gly-OH (Compound 105), H-D-Lys(3,5-dimethylbenzoyl)-Gly-OH (Compound 106), H-D-Lys(2,4-dichlorobenzoyl)-Gly-OH (Compound 107), H-D-Lys(2,5-dichlorobenzoyl)-Gly-OH (Compound 108), H-D-Lys(4-fluoro-3-nitrobenzoyl)-Gly-OH (Compound 109), and H-D-Lys(3-fluoro-4-methylbenzoyl)-Gly-OH (Compound 110).

76. (Currently amended) The peptide of claim ~~74~~ 1, or a pharmaceutically acceptable salt thereof, wherein said peptide is selected from the group consisting of H-Gly-D-Lys(4-methoxybenzoyl)-OH (Compound 12), H-Gly-D-Lys(4-nitrobenzoyl)-OH (Compound 13), H-Gly-D-Lys(4-fluorobenzoyl)-OH (Compound 14), H-Gly-D-Lys(4-

cyanobenzoyl)-OH (Compound 15), H-Gly-D-Lys(4-nitrobenzoyl)-OH (Compound 16), and H-Gly-D-Lys(benzoyl)-OH (Compound 17).

77. (Currently amended) The peptide of claim ~~74~~ 1, or a pharmaceutically acceptable salt thereof, wherein said peptide is selected from the group consisting of H-D-Lys(4-methoxybenzoyl)-Gly-OH (Compound 21), H-D-Lys(4-nitrobenzoyl)-Gly-OH (Compound 22), H-D-Lys(benzoyl)-Gly-OH (Compound 23), H-D-Lys(4-fluorobenzoyl)-Gly-OH (Compound 24), H-D-Lys(4-cyanobenzoyl)-Gly-OH (Compound 25), and H-D-Lys(4-chlorobenzoyl)-Gly-OH (Compound 26).

78. (Previously presented) The peptide of claim 77, or a pharmaceutically acceptable salt thereof, wherein said peptide is selected from the group consisting of H-D-Lys(4-methoxybenzoyl)-Gly-OH (Compound 21), H-D-Lys(4-nitrobenzoyl)-Gly-OH (Compound 22), and H-D-Lys(benzoyl)-Gly-OH (Compound 23).

79. (Currently amended) The peptide of claim ~~74~~ 1, or a pharmaceutically acceptable salt thereof, wherein said peptide is selected from the group consisting of ~~H-D-Lys(4-cyanobenzoyl)-Sar-OH (Compound 31), H-D-Lys(4-methoxybenzoyl)-Sar-OH (Compound 32), H-D-Lys(4-fluorobenzoyl)-Sar-OH (Compound 33), H-D-Lys(4-chlorobenzoyl)-Sar-OH (Compound 34), H-D-Lys(4-nitrobenzoyl)-Sar-OH (Compound 35), H-D-Lys(benzoyl)-Sar-OH (Compound 36), H-Ala-D-Lys(4-methoxybenzoyl)-OH~~

~~(Compound 37), H-Val-D-Lys(4-methoxybenzoyl)-OH (Compound 38), H-Ile-D-Lys(4-methoxybenzoyl)-OH (Compound 39), H-Leu-D-Lys(4-methoxybenzoyl)-OH (Compound 40), H-Phe-D-Lys(4-methoxybenzoyl)-OH (Compound 41), H-Trp-D-Lys(4-methoxybenzoyl)-OH (Compound 42), H-His-D-Lys(4-methoxybenzoyl)-OH (Compound 43), H-Tyr-D-Lys(4-methoxybenzoyl)-OH (Compound 44), H-D-Lys(4-methoxybenzoyl)-Ala-OH (Compound 45), H-D-Lys(4-methoxybenzoyl)-Phe-OH (Compound 46), H-D-Lys(4-methoxybenzoyl)-Ile-OH (Compound 47), H-D-Lys(4-methoxybenzoyl)-Leu-OH (Compound 48), H-D-Lys(4-methoxybenzoyl)-Val-OH (Compound 49), H-D-Lys(4-methoxybenzoyl)-His-OH (Compound 50), H-D-Lys(4-methoxybenzoyl)-Trp-OH (Compound 51), H-D-Lys(4-methoxybenzoyl)-Tyr-OH (Compound 52),~~ H-D-Lys(4-phenoxybenzoyl)-Gly-OH (Compound 53), H-D-Lys(4-t-butylbenzoyl)-Gly-OH (Compound 54), H-D-Lys(4-n-butoxybenzoyl)-Gly-OH (Compound 55), H-D-Lys(4-methylbenzoyl)-Gly-OH (Compound 56), H-D-Lys(4-ethylbenzoyl)-Gly-OH (Compound 57), H-D-Lys(4-n-butylbenzoyl)-Gly-OH (Compound 58), H-D-Lys(4-n-hexylbenzoyl)-Gly-OH (Compound 59), H-D-Lys(4-n-octylbenzoyl)-Gly-OH (Compound 60), H-D-Lys(4-pheylbenzoyl)-Gly-OH (Compound 61), H-D-Lys(4-benzyloxybenzoyl)-Gly-OH (~~Compound62~~ Compound 62), and H-D-Lys(4-ethoxybenzoyl)-Gly-OH (Compound 63).

80. (Previously presented) The peptide of claim 79, or a pharmaceutically acceptable salt thereof, wherein said peptide is H-D-Lys(4-t-butylbenzoyl)-Gly-OH (Compound 54).

81-82. (Cancelled)

83. (Currently amended) A pharmaceutical composition comprising a peptide of ~~any of claims~~ claim 1~~, 57, and 59~~, or a pharmaceutically acceptable salt thereof, and a pharmaceutical carrier.

84. (Previously presented) The pharmaceutical composition of claim 83, wherein said composition is orally administrable.

85. (Currently amended) A method of treating ~~or preventing~~ arrhythmia comprising administering to a patient in need thereof a therapeutically effective amount of a peptide of claim 1, ~~57, or 59~~ or a pharmaceutically acceptable salt thereof.

86. (Previously presented) The method of claim 85, wherein said arrhythmia is bradyarrhythmia or tachyarrhythmia.

87. (Previously presented) The method of claim 85, wherein said arrhythmia is atrial arrhythmia.

88. (Previously presented) The method of claim 85, wherein said arrhythmia is ventricular arrhythmia.

89. (New) H-D-Lys(4-nitrobenzoyl)-Gly-OH (Compound 22).